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ABSTRACT

Curriculum placement or tracking is a form of ability grouping most common in secondary schools. This study focused on the role of school characteristics and policies in shaping the tracking system, from the perspective that educational attainment is a consequence of the interaction between individual abilities and efforts and the learning opportunities provided by the school. Data were analyzed from the "High School and Beyond" study, which sampled students from 1,100 schools. Track placement was measured by students' description of their high school programs as academic, general, or vocational and their comments as to whether they chose this program or were assigned to it. Socioeconomic status (SES) of the family and school, ability of the individual students, and academic inclusiveness data were generated. Ability was the most important predictor of track placement. Social class background was strongly related to track placement. Track placement was not based solely on characteristics of individual students. School-level variables modified the relationship of ability and student-SES to track placement. Two-thirds of the sample chose their track and were more often located in the academic or vocational track while those assigned were more likely to be in the general track. Analyses revealed systematic differences among types of schools, suggesting that track placement is more complex than previously indicated and that school-level variables should be included in research on track placement. (ABL)

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Individual and Organizational Predictors of High School Track Placement

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Curriculum placement or tracking is a form of ability grouping most common in secondary schools. It has been viewed as the institutional mechanism by which students are selected or channeled for different educational experiences; it can be seen as the principal means of academic stratification within high schools (Heyns, 1974). Initial curriculum placement is one part of the tracking system. The bases upon which decisions are made to place students in tracks can do much to shape the nature of the tracking system and may also affect the subsequent amount and kind of mobility within it (Sorensen, 1970; Rosenbaum, 1976; 1980).

The research reported here departs from prior studies on curriculum placement in two ways. One is its focus on the role of school characteristics and policies in shaping the tracking system, affecting the opportunity structures faced by students. Much of the research on curriculum placement has approached it as part of the process of individual educational attainment. The perspective employed here is that educational attainment is a consequence of the interaction between individual abilities and efforts, on the one the one hand, and the opportunities for learning structurally generated by the school, on the other (Hallinan and Sorensen, 1983).

Students vary in the amount of skill or expertise they bring to the school. Tracking is a structural arrangement designed to accommodate differences among students. As such, tracking is viewed as a productive activity of the school (Barr and Dreeben, 1983) and is therefore a school effect. The opportunity structure is a characteristic of school organization which may affect increments in

learning by defining some of the conditions for learning and teaching. We suspect, then, that the criteria and procedures for the placement of students in curriculum tracks are determined by the school, moreso than by individual students. And, since schools are not isolated entities, they are likely to be affected by the social context in which they exist and/or the characteristics of the clientele they serve. These factors may therefore affect the structure of a tracking system such that ability or social class or some other criterion is the major basis for placement (Rosenbaum, 1984). By entering some of these school characteristics into our analyses we will be in a position to assess the relationship of school-level variables to track placement.

Secondly, our conceptual approach and methodology also will allow us to address one of the more contentious issues regarding track placement; whether ability or social class is more important to track placement. Rosenbaum (1984) points out that the literature does not show consensus on this issue with Jencks, et.al. (1972); Hauser, Sewell and Alwin (1976); Heyns (1974); and Rehberg and Rosenthal (1978) and Alexander and Cook (1982) indicating that the role of social class is minimal when ability is controlled. But Alexander and McGill (1976) and Rosenbaum (1976) report the opposite. Our perspective suggests that school-level variables may specify the conditions under which ability and/or social class is more important. It may be the case that tracking systems in some types of schools are more responsive to ability than others; whether this is the case has not been reported in the literature (Rosenbaum, 1984).

METHODS

The data for this research are the responses of a sub-sample of high school students included in the High School and Beyond (HS&B) Study. The respondents are the 14,8225 students which comprised 92% of the subsample studied in 1984 of the original 1980 sophomores. This data set was also used for a comparison research project (Vanfossen, et.al, 1987). In addition, data on the characteristics of the schools which the students attended provided by school administrators at the 1100 schools sampled are used.

Sample. The original sample of students was selected through a two-stage, stratified probability sample with over 1,100 public and private schools selected in the first stage and 36 students within each school as the second stage units. With the exception of certain special strata, which were over-sampled, schools were selected with probability proportional to estimated enrollment in their 10th and 12 grades.

Analysis procedure. The forward multiple regression technique in which blocks of variables are entered in the equations is the primary analytic strategy utilized, with listwise deletion of missing values. In addition, some cross-tabulations are presented showing the relationships of selected variables. There are two reasons for this. First, the cross-tabulations provide a way of exploring curvilinear relationships among variables. Second, this form of presentation supplements regression analysis in the sense of conveying a better feel for the data. While regression most efficiently portrays relationships among variables, it does not

permit the reader to assess the actual variations across categories ofindependent variables.

Note should be taken of the fact that in the regression analysis the track variable is dichotomized into academic and non-academic, the latter including the general and vocational tracks. This is conventional procedure in studies of track placement. However, in the cross-tabulations all three categories of track are used. Also, in the regression analyses the independent variables are continuous (where appropriate) whereas in the cross-tabulations the variables are collapsed to three and in one case to two categories. These are specified below.

Variables. Track placement is measured by a question administered in the sophomore questionnaire: Which of the following best describes your present high school program? Responses were grouped into three categories: academic, general, and vocational. Students were also asked if they were assigned to the program or did they choose it. The responses to this question constitutes our measure of electivity.

Family socioeconomic background is indicated by a composite scale score, based on family income, father's education, mother's education, father's occupation, and the average score for eight household items such as presence of newspapers, books, typewriter, etc. This continuous variable was regrouped into quartiles for the cross-tabulations. The middle two quartiles were combined for the purposes of simplification.

Measured test performance is a composite score, the average of

three tests of reading, vocabulary, and mathematics. Treated as a continuous variable in the regression analyses, scores were grouped into three categories, the lowest quartile (low-ability), the middle two quartiles (medium-ability), and the highest quartile (high-ability) for the cross-tabular presentation.

Socioeconomic composition of student body was calculated by aggregating student SES scores (from the student questionnaire) by school. The school-level variables, socioeconomic composition and degree of school selectivity were calculated by aggregating student SES scores and responses to whether students were assigned to or chose their track, respectively. Academic inclusiveness was obtained from the survey of school administrators. Each school level variable was also treated as continuous for regression but di- or trichotomized for the cross-tabular analysis.

FINDINGS

The results of the analyses of the effects of the individual-level variables are presented first followed by the school-level variables. Taken together, the findings confirm the results of prior research while other results suggest a need to revise models of track placement or location to include school level variables.

The results of the analyses of individual-level determinants of track location are presented in Table 1. Following established conventions we have included in the regression model those variables found by prior research to affect track placement, academic achievement and other educational outcomes. It is assumed that sex,

race, socioeconomic background (SES), grades, and eighth grade educational expectations are exogenous variables which may have strong independent effects on track placement. Each of these were found to be significantly related to track placement. Ability is by far the strongest predictor of track location, followed by grades, 8th grade educational expectations, and student SES while sex and race are the weakest predictors. Thus, location in the academic track versus a non-academic track is associated with high ability, grades, educational expectations and SES.

When the interaction term for test and SES is entered in the model (see Table 1, second column) the betas for both test and SES drop substantially which, together with the large beta for the interaction of these two variables, indicates that the effect of ability on track placement is influenced by SES (or conversely, that placement by SES is influenced by ability). Location in the academic track increases as ability and SES increase. This suggests that both variables have an effect on track placement, controlling for the other background variables.

The independent and joint effects of ability and SES are examined in more detail in Table 2. This cross-tabulation shows the effect of these variables on three tracks, academic, general, and vocational, whereas in the regression track was treated as a dichotomous variable, academic vs non-academic. The effect of ability is quite apparent.

Specifically, the modal track location for all low ability

Table 1. Regression of Track Placement on Background Variables and School-SES: Metric Coefficients, Standard Errors, and Standardized Coefficients (in parentheses).
(N = 11238)

Independent Variables	Basic Model	Terms Added To The Equation: Interaction Test x SES	School-SES	Interac SES x Sc
Sex	.035***	.038***	.037***	.037
	.008	.008	.008	.008
	(.037)	(.040)	(.039)	(.039
Race	-.123***	-.132***	-.138***	-.13
	.014	.014	.014	.01
	(-.076)	(-.082)	(-.086)	(-.08
SES	.067***	.017*	.007	.01
	.006	.007	.008	.01
	(.101)	(.026)	(.010)	(.04
Test	.015***	.007***	.007***	.00
	.001	.001	.001	.00
	(.284)	(.127)	(.126)	(.11
Grades	-.040***	-.034***	-.036***	-.03
	.003	.003	.003	.00
	(-.134)	(.115)	(-.121)	(-.12
Edex	-.067***	-.063***	-.063***	-.06
	.004	.004	.044	.00
	(-.133)	(-.125)	(-.124)	(-.12
Test x SES		.001***	.001***	.00
		.000	.001	.00
		(.236)	(.126)	(.25
Sch SES			.055***	.09
			.012	.01
			(.044)	(.07
SES-Sch SES				-.03
				.01
				(-.06
Constant	-.118***	-.233***	-.190***	.10
	.041	.042	.043	.12
Adj. R^2	.225	.234	.236	.23

Significance Levels: *.05 **.01 ***.001

students is the general track with most of the remainder in the vocational track; the distribution of these students is skewed towards the bottom of the tracking system which is what would be expected if ability was the primary criterion for placement. The middle ability students' modal placement is also the general track. However, the remainder of these students are split between the academic and vocational tracks; in the high SES group most of the remainder are in the academic track. Thus, middle ability students are also located in the track (modally) which would be predicted if ability were the placement criterion. The high ability students are placed most accurately by ability. Their modal track location is the academic track; most of the rest of these students are in the general track.

TABLE 2. TRACK LOCATION BY STUDENT-SES AND ABILITY, IN PERCENT (N=12,765)

	STUDENT-SES								
	LOW SES			MID SES			HIGH SES		
	ABILITY								
TRACK	LOW	MID	HI	LOW	MID	HI	LOW	MID	HI
ACAD	8.1	21.1	53.7	13.5	27.8	53.9	19.5	40.5	70.0
GEN	52.6	55.0	36.8	52.2	51.3	35.6	50.7	48.0	26.2
VOC	39.3	23.9	9.5	34.3	20.9	10.4	29.8	11.5	3.8
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	1292	1512	304	1318	3472	1690	262	1405	1509

It is clear from both the regression analysis and the distributions in Table 2 that ability is the major criterion for placement. The higher the student ability the more likely that s/he

is to be located in the academic track and vice-versa. But it is also apparent that ability is not a perfect predictor of track location; there is substantial misplacement at each level of measured student ability. With one exception, we would guess a student's track location incorrectly nearly half the time even if we knew his/her ability level. For example, with middle and lower class students, knowledge of their ability will lead to an incorrect guess at least 45% of the time.

Another point which is evident from these analyses is that the relationship between ability and track placement is conditional on student SES. It is clear that students of all ability levels are differentially located in the tracking system according to their social class background (see Table 2). Further, the relationship is curvilinear. A middle SES background only modestly improves the possibility of being located higher in the tracking system over being from a lower class family. But the high SES student has the greatest chance of being in the academic track, and this chance is much greater than either the low or middle SES student (70% vs 54%). Conversely, the lower- and middle-class student has a better chance of being in the vocational track than does the high-SES student. Thus, high-SES pulls the high-ability student toward location in the academic track while low- or middle-SES enhances the possibility of the low-ability student being in the vocational track.

Thus, while different theoretical arguments may posit the relative importance of either ability or SES on track placement, the more interesting finding here is that the two independent variables

are conditionally related such that SES specifies the relationship between ability and track placement. Given the relatively good quality of this data set, this finding indicates that future research on tracking should include an ability-SES interaction term in addition to the treatment of the two variables as having independent effects. In addition, it would be very instructive to include selected cross-classifications of these variables to facilitate comparisons across studies.

The Relationship of School Social Class Composition to Track Placement

Whether a school allocates students by social class and engages in class reproduction as argued by many critics is an important issue to examine (Bowles and Gintis, 1976; Apple, 1982; Rehberg and Rosenthal, 1978). Tracking is often the mechanism cited which perpetuates stratification patterns within schools. But it is also possible that some schools may attempt to enhance, inhibit, or overcome reproduction, due perhaps to the nature of the clientele and community it serves. Depending on the SES of the clientele, a tracking system may be more or less structured to meet the educational needs of its students.

The effect of the school-SES on track placement controlling for the six background variables and the interaction of Test x SES is quite small (see Table 1, third column). Also, the beta for student-SES drops and is not significant. When the first-order interaction terms are entered, only SES by school-SES enters; test by school-SES is too low to meet the minimum tolerance level.

Likewise the second-order interaction term, Test by SES by school-SES will not enter. Further, while the R^2 change is significant, it is less than one percent.

Thus, these findings indicate that the influence of school-SES is exerted as much through its interaction with student-SES as it is exerted directly. As shown in Table 3 in the high SES-school student-SES has less effect than in the low SES-school. This means the high SES-school is more likely to overcome the effects of class than is the low SES-school. While high SES-students of high ability are likely to be in the academic track, regardless of what SES-school they attend, low-SES students of high-ability are not so likely to be in the academic track in the low SES-school. This finding is somewhat surprising since we could expect a much larger effect if our rationale for organizational effects has any validity. As it turns out, a closer inspection of the data reveals why there is such a modest effect of school-SES on the relationship between ability, student-SES and track placement (see Table 3).

One of the first things observable in these data is that one pattern to describe the relationship is not discernible. Several patterns are apparent and some differ markedly from the original relationship of ability, SES, and track presented in Table 2.

Here the question is, does the placement of students of each ability level vary by their SES in each type of school? We begin with a look at placement in low-SES schools. The first observation is that the low-ability students are placed similarly regardless of their own SES. This suggests that ability is the primary criterion

TABLE 3. TRACK PLACEMENT BY SCHOOL-SES, STUDENT ABILITY AND STUDENT-SES, IN PERCENT.
(N=12,740)

	STUDENT-SES								
	LOW			MIDDLE			HIGH		
	ABILITY								
TRACK	Low	Mid	High	Low	Mid	High	Low	Mid	High
	LOW SCHOOL-SES								
Acad	8.0	22.8	44.0	15.3	25.8	52.9	14.0	47.4	69.6
Gen	49.1	50.6	42.0	45.6	46.1	36.3	41.1	45.0	22.4
Voc	43.0	26.7	14.0	39.1	28.1	10.8	44.9	7.6	8.0
	100.1	100.1	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	753	720	116	536	786	304	58	134	105
	MIDDLE SCHOOL-SES								
Acad	5.0	19.9	52.2	11.6	26.6	51.2	21.7	37.7	66.6
Gen	56.6	58.1	41.0	57.0	52.5	37.2	43.6	47.0	28.0
Voc	38.4	22.0	6.8	31.4	20.9	11.6	34.7	15.3	5.4
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	395	562	119	485	1549	741	102	438	360
	HIGH SCHOOL-SES								
Acad	16.3	18.8	72.8	13.3	30.7	57.5	20.3	40.8	71.2
Voc	62.2	61.2	20.6	56.2	53.1	33.6	63.2	49.0	26.0
Gen	21.4	20.0	6.6	30.6	16.1	8.9	16.4	10.2	2.7
	99.9	100.0	100.0	100.1	99.9	100.0	99.9	100.0	99.9
N	136	226	68	292	1134	643	102	832	1044

used for the track placement of these individuals.

The pattern for middle-ability students is somewhat different. Among these students, those of low- and middle-SES are placed similarly but those of high-SES are significantly more likely to be in the academic track; this is almost twice as likely for the latter groups than for either of the former groups.

For high-ability students the pattern of placement is linear; the higher their SES the more likely they are to be in the academic track. In addition, these students are the most likely of all

Table 4. Regression of Track Placement on Background Variables, and School Academic Inclusiveness: Metric Coefficients, Standard Errors, Standard Coefficients (in parentheses).

(N=10563)

Independent Variables	Basic Model	Terms Added To Equation: Interaction Test X SES	Incl.	Interaction Test x Incl. SES x Incl.
Sex	.036*** .008 (.038)	.039*** .008 (.041)	.036*** .008 (.038)	.037*** .008 (.039)
Race	-.121*** .014 (.075)	-.130*** .014 (.081)	-.126*** .014 (.078)	-.121*** .014 (-.075)
SES	.068*** .006 (.103)	.019*** .007 (.029)	.011 .007 (.016)	.011 .008 (.017)
Test	.016*** .000 (.291)	.007*** .001 (.135)	.007*** .001 (.137)	.005*** .001 (.086)
Grades	-.039*** .003 (-.32)	-.034*** .003 (-.114)	-.036*** .003 (-.123)	-.036*** .003 (-.123)
Edex	-.067*** .004 (-.132)	-.063*** .004 (-.124)	.061*** .004 (-.121)	-.061*** .004 (-.120)
Test x SES		.001*** .000 (.234)	.001*** .000 (.212)	.001*** .000 (.209)
Incl.			.058*** .001 (.111)	.001 .012 (.002)
Test x Incl.				.001*** .000 (.210)
SES x Incl.				.001 .001 (-.071)
Constant	-.138*** .042	-.250*** .043	-.300*** .043	-.150** .055
Adj. R^2	.229***	.239***	.251***	.254***

Significance Levels: *.05 **.01 ***.001

ability groups to be in the academic track. In summary, in the low-SES school the location of each ability group is differently affected by student-SES. Low-ability students are not affected by their SES, but middle-ability students are likely to be placed higher in the tracking system if they are high-SES only, whereas the relationship of SES for the high-ability students is direct and linear.

For students attending the middle-SES schools the relationship between ability and individual SES on track location is more linear than was the case for students in the low-SES schools. The higher the social class of the student, regardless of ability, the more apt they are to be in the academic track. The one partial exception to this is the high ability group; if they are low- or middle-SES they are located similarly in the tracking system but if they are high-SES they are placed differently and higher in the system.

A third set of patterns is evident for students in high-SES schools. The relationship between student-SES and track is curvilinear for both the low- and the high-ability students with the curvilinearity being much more pronounced for the high-ability students. Middle-SES students are likely to be lower in the tracking system in both of these ability groups. In contrast, middle-ability students appear to be located in the tracking system in a linear fashion by student-SES. Thus, in the high-SES type of school both low- and-high ability students are more advantageously placed if they are also of low- or high-SES backgrounds, while the effect of student-SES on the location of middle-ability students is additive.

The purpose of this rather long and detailed analysis of this four dimensional cross-tabulation is two-fold. First, it illustrates quite clearly the actual distribution of students in schools differentiated by SES of the student body. Second, and more central to the objective of this research, is that the distribution of students in the tracking systems of high schools does vary by type of school and also varies within the types of schools in a manner which would be impossible to detect with regression analyses. Specifically, both curvilinear and linear relationships between ability, student-SES, and track were found in each of the three types of schools, with curvilinearity dominating. In regression analysis the different distributions of students would cancel each other out and lower the beta coefficient of the school-SES variable. This appears to be precisely what happened in this case thus obscuring the effect of school-SES.

Substantively, these findings indicate that the relationship of ability and student-SES to track location varies by type of school. In particular, this set of findings lends support to Rosenbaum's (1984) assertion that different tracking patterns may prevail in different types of schools. He came to this conclusion on the basis of his review of several case studies of tracking; we confirm this finding using a more representative large-scale data base.

The implications of these findings regarding class reproduction are equivocal. Student social class is an important determinant of track placement, but so is ability. The SES of the school appears to modify both of these individual-level variables, although not

uniformly. These findings suggest that track placement as an institutional mechanism of status transmission is complex, involving both individual and organizational characteristics. Our analyses reveal both within- and between- type of school differential allocation of students. If track placement is an important part of the social mobility process, our findings indicate that it both inhibits and facilitates mobility.

The Relationship of the Academic Inclusiveness of Schools to Track Placement

The second school level variable to be analyzed is what Sorensen (1970) has termed "inclusiveness." This refers to the extent to which a school attempts to give most of its students one type of education. A school low on inclusiveness would be one which attempts to differentiate its students in terms of outcome (Sorensen, 1970). A school high on inclusiveness would be one attempting to give all students the same quality and quantity of education; we would expect a low degree of differentiation in this type. Although the dimension of inclusiveness has been viewed as most appropriately applied to European educational systems where separate schools offer different kinds of education, for example, academic or technical (Sorensen, 1970), it may be useful to analyze comprehensive American schools on this dimension in terms of the variation in emphasis given to one or more types of education within schools.

Sorensen (1970) also pointed out in his discussion that school inclusiveness may interact with family background. He noted that

"parents as well as students will adjust their educational aspirations to the inclusiveness of the educational system" (364). Assuming that track placement is tied closely to aspirations, the following hypothesis can be derived and tested: high inclusiveness may weaken the effect of family background on track placement and low inclusiveness may strengthen it.

Direct and indirect measures of inclusiveness may include the proportion of students in one or more tracks, the percent of a cohort completing high school, the percent dropping out, the proportion of students going on to college, even the courses required of all students. In this research the meaning of the concept of inclusiveness is restricted to academic inclusiveness; the full range of types of education which schools could potentially emphasize (e.g. technical, business, vocational, etc.) is not addressed. The measure of inclusiveness is the proportion of 10th grade students in the academic track of the students' high school, aken from the principal's questionnaire. Low-inclusive schools are those with 30 percent or less of the students in the academic track, moderate-inclusive schools have 31 percent to 60 percent, and high-inclusive schools have 61 percent or more of the students in the academic track.

Table 4 contains the results of the regression analyses pertaining to academic inclusiveness. Adding academic inclusiveness to the equation which had only individual-level variables increases the R^2 by a statistically-significant one percent (the third column), and adding the first-order interaction terms increases it

by another fraction of one percent. Therefore, the school-level variable and interaction terms improve the fit of the model. The betas suggest that the effect of ability on track location varies by the SES of the student (and/or conversely, that the effect of the SES of the student on track location varies by the ability of the student). This is consistent with all the results presented thus far.

In addition, the effect of ability on track location varies by the school's academic inclusiveness (test x Inclus). High ability students were more "accurately" placed in the high-academic inclusive schools while low-ability students were "accurately" placed in the low-academic inclusive schools. This shows that the curricular emphasis of the school affects the track location of students.

However, the interaction of individual-SES and academic inclusiveness is nonsignificant; therefore, the effect of individual-SES on track location does not vary by the percent academic in the school. SES exerts its influence regardless of the emphasis of the school upon academics. Interestingly, individual-SES was statistically significant when only the individual-level variables were in the equation, and it remained significant as academic inclusiveness was introduced. However, when the interaction terms were introduced, it dropped to insignificance. This suggests that the impact of SES, while constant regardless of the academic inclusiveness of the school, is carried in its interaction with ability, that is, SES influences track location by

Thus, we can state that the larger the proportion of students in a school who are pursuing an academic curriculum, the smaller the differences among the social classes in the academic track for high- and middle-ability students; for low-ability students the differences will be smaller for those in the general and vocational tracks. These findings provide support for Sorensen's hypothesis that as the inclusiveness of the school increases, the effect of family background weakens, but primarily for middle- and high-ability students.

Table 5. TRACK PLACEMENT BY SCHOOL ACADEMIC INCLUSIVENESS, STUDENT ABILITY AND STUDENT-SES, IN PERCENT.

	STUDENT SES								
	LOW			MIDDLE			HIGH		
	ABILITY								
TRACK	Low	Mid	Hi	Low	Mid	Hi	Low	Mid	Hi
	LOW ACADEMIC INCLUSIVENESS								
Acad	9.1	16.6	38.0	10.9	18.7	42.3	13.6	35.7	54.9
Gen	51.6	58.9	51.1	53.8	58.6	45.7	42.1	51.7	36.7
Voc	39.4	24.5	10.9	35.3	22.7	11.9	44.2	12.6	8.4
	100.1	100.0	100.0	100.1	100.0	99.9	99.9	100.0	100.0
N	520	523	92	459	936	404	69	287	197
	MODERATE ACADEMIC INCLUSIVENESS								
Acad	5.6	21.6	56.7	11.4	30.1	54.2	17.7	38.7	66.4
Gen	49.8	52.2	31.0	54.0	47.9	32.8	54.8	46.0	30.2
Voc	44.6	26.2	12.4	34.6	22.0	13.0	27.4	15.4	3.4
	100.0	100.0	100.1	100.0	100.0	100.0	99.9	99.9	100.0
N	440	567	115	437	1321	613	85	415	423
	HIGH ACADEMIC INCLUSIVENESS								
Acad	7.6	28.5	65.8	16.5	36.0	62.9	18.4	44.5	76.0
Gen	58.5	54.5	29.4	50.4	47.1	29.1	55.5	47.4	21.5
Voc	33.9	17.0	4.8	33.1	17.0	7.9	26.1	8.1	2.5
	100.0	100.0	100.0	100.0	100.1	99.9	100.0	100.0	100.0
N	245	319	84	339	942	527	86	601	801

differentially affecting whether or not ability will be related to track location, and this influence holds regardless of the school's emphasis. These betas thus indicate that when SES is high, there is a closer relation between ability and track location than when SES is low.

The relationships uncovered by the regression analysis are portrayed more graphically in Table 5. Reading across the table within levels of academic inclusiveness, it can be seen that placement varies by ability and SES much as we have discussed previously. That is, within types of schools, students of all ability levels generally have a much better chance of being in the academic track the higher their SES. However, reading down the table within SES categories it is clear that placement by ability and SES varies systematically by academic inclusiveness of the school. For example, a high-ability student from a low socioeconomic background has only a 38 percent chance of following an academic track if s/he is in a school with a low proportion of students in the academic track. This compares to a 66 percent probability for the same student in a school with a high percentage of students in the academic track. Differences in the same direction exist for high-ability students of middle- and high-SES backgrounds across the different types of schools. Although the differences are not as large, middle-ability students are also more likely to be in the academic track the higher the academic inclusiveness of the school, regardless of their own SES. This pattern is much less evident for low ability students.

The point that stands out most clearly in this analysis is that a school-level variable, one which denotes the organizational differentiation of students, affects the track placement of students conditionally through its interaction with ability. Thus, academic inclusiveness, which is more a measure of the organizational differentiation of the school than the social composition of it, affects the track location of students. It will be interesting to see if future research on different types of school inclusiveness (e.g., vocational) confirm the effects of this school level variable.

On Being Assigned or Choosing A Curricular Track

It has been suggested that the degree of electivity or student choice which occurs is an important element of the track assignment procedure because the degree of homogeneity in tracks or classrooms may be affected by it (Sorensen, 1970). High or low electivity is an indicator of differentiation produced by students themselves. The degree of electivity may also affect student motivation, peer relations (and thus aspirations), and teaching effectiveness.

At the school-level, the extent of electivity or student choice permitted is an indicator of the amount of differentiation intended by the school; it is referred to as selectivity (Sorensen, 1970). This dimension of selectivity is a measure of the way schools are organized to differentiate students; some may assign or allocate all students while others may let students choose their own curricular track (Kerckhoff, 1976). It seems doubtful that many schools assign all of their students. It is more plausible that they may differ in

the proportion of students they assign or let choose their curricula. The reasons for varying degrees of selectivity may depend on intended educational outcomes and/or other considerations such as the availability of teachers with qualified teaching fields which match student curricular or school preferences.

From the foregoing two researchable questions arise. First, are students who elect their track located differently in the tracking system from those who are assigned? This has to do with electivity among students and is an individual-level question. The second is the school-level question: Are students who either choose or are assigned located differently in the tracking system as the degree of school selectivity varies? These questions should lead to some information on an aspect of school organizational differentiation not reported in the literature on track placement.

At the individual level, the electivity variable does not yield a large enough beta to be meaningful (see Table 6). Nor does the entry of this variable yield a significant change in R^2. However, when the interaction term for electivity by ability is entered in the equation several points become clear. First, the beta for the interaction term is quite large. Second, the beta for electivity increases substantially. And third, the beta for SES increases only slightly while the beta for ability decreases substantially. This means that the effect of SES on placement remains the same but the effect of ability on placement is considerably altered by whether a student was assigned or chose his/her placement.

Table 6. Regression of Track Placement on Background Variables, Student Electivity, and School Selectivity: Metric Coefficients Standard Errors and Standardized Coefficients (in parentheses)

Independent Variables	Student Electivity		School Selectivity: Low Selectivity		School Selectivity: High Selectivity	
Sex	.033***	.032***	.038***	.037***	.034***	.037***
	.008	.008	.011	.011	.012	.012
	(.034)	(.034)	(.039)	(.039)	(.037)	(.036)
Race	-.129***	-.126***	-.138***	-.137***	-.129***	-.128***
	.013	.013	.023	.023	.017	.017
	(-.081)	(-.080)	(-.069)	(-.068)	(-.097)	(-.096)
SES	.068***	.069***	.060***	.061***	.067***	.068***
	.006	.006	.008	.008	.009	.009
	(.104)	(.107)	(.088)	(.091)	(.108)	(.109)
Test	.015***	.006**	.018***	.007*	.012***	.006**
	.001	.002	.001	.003	.001	.002
	(.272)	(.103)	(.325)	(.132)	(.221)	(.126)
Grades	.041***	-.040***	-.043***	-.042***	-.037***	-.037***
	.003	.003	.004	.004	.004	.004
	(-.137)	(-.136)	(-.139)	(-.139)	(-.130)	(-.130)
Edex	-.065***	-.065***	-.076***	-.076	-.056***	-.056***
	.004	.004	.006	.006	.006	.006
	(-.129)	(-.129)	(-.145)	(-.145)	(-.117)	(-.116)
Electivity	.035***	-.225***	.003	-.288***	.034**	-.119
	.008	.049	.014	.085	.011	.066
	(.034)	(-.219)	(.003)	(-.227)	(.037)	(-.128)
Electivity by Test		.005***		.006***		.003***
		.001		.002		.001
		(.332)		(.324)		(.205)
Constant	.129***	.313***	-.203***	.328*	-.019	.221
	.041	.091	.063	.166	.059	.119
Adj.R^2	.223	.224***	.271***	.272***	.172***	.172
N	11,362	11,362	5778	5778	5584	5584

Significance Levels: *.05 **.01 ***.001

The interaction can be seen in Table 7. The likelihood of being in the general track is much greater in most cases, for students of all ability and levels, if they were assigned. But when selecting their track students placed themselves differently than did school officials. Further, the way in which these placements differed varied for each ability group. High ability students placed themselves higher in the tracking system, more frequently in the academic track. The middle-ability students and the low-ability high-SES students chose both the academic and vocational tracks more frequently than school officials. Finally, low-ability low- and middle- SES students more often chose the vocational track. Thus, compared to students assigned their track, low-ability choosers were more often in the vocational track, middle-ability choosers in both the vocational and academic tracks, and high-ability choosers were more likely to elect the academic track. And, among the choosers, the high-ability students were the most homogeneously placed in the tracking system, followed by the low-ability students while the middle-ability students were the most heterogeneously placed. These different patterns of placement and the variations within them often account for the interaction of electivity and ability. The finding that school officials were less likely to assign students to the extremes of the tracking system than did students themselves was surprising.

To look at the effect of school patterns, the schools students in the sample attended were divided into two categories according to whether a high or low proportion of students elected their

Table 7. TRACK PLACEMENT BY STUDENT-SES, ABILITY AND ELECTIVITY, IN PERCENT.

	STUDENT SES								
	LOW			MIDDLE			HIGH		
	ABILITY								
	LO	MID	HIGH	LO	MID	HIGH	LO	MID	HIGH
TRACK	LOW ELECTIVITY (Students Who Were Assigned)								
Acad	6.9	16.3	31.6	15.2	24.8	50.1	17.6	36.4	59.1
Gen	60.1	68.5	60.8	53.4	62.2	46.2	54.3	56.2	35.9
Voc	33.0	15.2	7.6	31.3	13.0	3.7	28.1	7.4	4.9
	100.0	100.0	100.0	99.9	100.0	100.0	100.0	100.0	99.9
N	601	500	56	536	1065	321	100	454	325
	HIGH ELECTIVITY (Students Who Chose)								
Acad	9.3	23.7	59.1	12.4	29.4	55.2	20.5	42.8	73.1
Gen	45.9	48.0	30.9	51.5	46.0	32.7	49.2	43.6	23.4
Voc	44.7	28.3	20.0	36.1	24.6	12.1	30.3	13.6	3.5
	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	669	991	246	770	2375	1359	160	934	1172

track. Following Sorensen's (1970) reasoning, it was suspected that the distribution of students in the tracking system would vary among schools depending on the degree of student choice evident in the school. Schools in which a high proportion of students chose their track are designated low-selectivity schools (only 18% of these students were assigned) and those in which large proportions of students indicated they were assigned to their track are designated high-selectivity schools (45% of these students were assigned).

In this instance separate regressions were run for the high- and low-selectivity schools (see Table 6). A comparison of the

regressions for each type of school indicate a substantial difference in the R^2 and in the beta for ability. When the interaction term for electivity by ability is entered in the equations for each school a similar pattern of changes in some of the betas for each type of school results. First, as the effect of test decreases substantially for each (from .325 to .132 and .221 to .126) the effect of electivity increases dramatically, for the low-selectivity schools. In addition, the effect of the interaction term is larger for low-selectivity schools.

These findings, based on regression using a dichotomous measure of track (academic vs non-academic), are reflected and extended in the cross-tabulation of the data using three categories of track (see Table 8). This permits examination of variations within the non-academic category, i.e., general and vocational, and will help interpret the interaction of electivity and ability.

Some interesting patterns of track location are apparent. In both types of schools, being able to elect one's track results in the greater likelihood of being in either the academic or vocational track than students assigned to their track. Conversely, students assigned in both types of schools were more likely to be in the general track than students who chose.

The effect of the type of school shows up in the different track locations between those who elected and who were chosen in each school. Among students who elected their track, the low- and middle- ability students were more likely to be in the vocational

Table 8. TRACK PLACEMENT BY ABILITY, SCHOOL SELECTIVITY, AND ELECTIVITY, IN PERCENT. (N = 11,820)

	ABILITY		
	LOW	MIDDLE	HIGH
		HIGH SELECTIVITY SCHOOLS	
		LOW-ELECTIVITY	
		(Students Who Were Assigned)	
TRACK			
Acad	11.1	25.5	48.4
Gen	56.4	64.5	46.8
Voc	32.5	9.1	4.8
	100.0	100.0	100.0
N	844	1331	459
		HIGH-ELECTIVITY	
		(Students Who Chose)	
Acad	14.0	30.9	55.3
Gen	53.5	50.7	35.0
Voc	32.7	18.4	9.6
	100.0	100.0	100.0
N	735	1542	945
		LOW-SELECTIVITY SCHOOLS	
		LOW-ELECTIVITY	
		(Students Who Were Assigned)	
Acad	13.0	25.3	63.0
Gen	53.6	55.0	32.2
Voc	33.4	19.7	4.8
	100.0	100.0	100.0
N	308	558	208
		HIGH-ELECTIVITY	
		(Students Who Chose)	
Acad	8.6	31.9	67.8
Gen	46.9	42.8	24.2
Voc	44.5	25.3	8.0
	100.0	100.0	100.0
N	771	2505	1614

track and high-ability students were more likely to be in the academic track if they attended a low-selectivity school rather

than a high-selectivity school.

The students assigned to their tracks vary by type of school also. Attending a low-electivity school increases the proportion of students assigned to the general track over that for those attending a high-electivity school.

Thus, it is choosing one's track which has more effect on track location in the low-selectivity than in the high-selectivity school. If one chooses one's track in the low-electivity school s/he has a greater chance of being in the academic or vocational tracks than if they choose in the high selectivity school or if they were assigned in either type of school. Conversely, one has the best chance of being in the general track if one is assigned and especially if assigned in a high-selectivity school.

The greater interaction between electivity and ability in the low-selectivity school is evident in the different placement patterns between low-ability students, on the one hand, and middle- and high-ability groups, on the other. Low-ability students who chose their track were more likely to be in the vocational track than were those who were assigned. Middle- and high-ability groups, on the other hand, were more likely to be in either the academic or the vocational tracks than were students of the same ability levels who were assigned.

This contrasts with placement patterns in the high-selectivity school. There is less interaction between electivity and ability and no effect of electivity because the track placement patterns of low-ability students are virtually identical for those who were

assigned and those who chose their tracks.

The middle- and high-ability students were more likely to be in either the academic or vocational tracks if they chose in this type of school; thus, the differences between the assigned and choosers of these ability-levels are similar in each type of school. These findings raise a question about the differences between these types of schools which would create the different tracking patterns for the low-ability students.

The differences observed with regard to student electivity and school selectivity are perhaps the most surprising and interesting in this study. The findings presented above indicate that the opportunity to elect curriculum placement results in the less and some moderately able students choosing the less academically demanding curricula while the more able and more moderately able choose the more demanding curriculum. The condition of high-electivity, or opportunity to choose, provided by the schools yields a more sharply differentiated distribution of students among tracks. Further, it permits students to sort themselves into school curricula which will likely result in differential educational and occupational attainment. Clearly, the high-ability students receive the advantage, but low- and middle-ability students who choose may be at a disadvantage. For these students, whether or not intended by the school, this condition of low-selectivity may be the mechanism which results in a cooling-out process in high schools similar to Clark's (1960) discussion of this process at the junior or community college level. Electivity

for these students may mean that schools will not have to accept responsibility for track placement and subsequent attainments. Also, these students will no one to blame but themselves if their social mobility aspirations are blocked. Thus, student electivity, which on the surface may be highly valued, may instead be an inadvertent mechanism by which the status-quo is perpetuated with little or no dissent from either those for whom it is most advantageous or those most disadvantaged by it.

But what about the high-selectivity schools? Our findings indicate that school officials were less likely to use ability as a criterion for placement than did the students. Students placed themselves more accurately by ability. But more often misplaced themselves by ability too. Why then might school officials be more conservative in this regard than has sometimes been reported? It may be that it is administratively more difficult to assign students to an academic or vocational rather than the general track. There may be at least two kinds of reasons for this. When confronted with the disposition of a student about whom s/he has some doubt about future performance, the school personnel may prefer to err on the side of caution for the student's benefit. Should the school official place a student in a too demanding or a not demanding enough curriculum, then s/he may risk the possibility of the student becoming seriously disaffected with school to the point that his/her educational and occupational fate may be jeopardized. Thus, assignment to the general track is safer for the student's benefit. It is not hard to imagine the embarrassment

a border-line student might feel if assigned to the academic track and later being re-assigned to the general track. In the case of returning a student to the general from the vocational track the student may be behind and thus would have lost time in terms of courses missed.

Besides this concern for the fate of the individual student, a second reason is of greater organizational concern. Metz (1978) has shown very clearly that school officials must be very centrally concerned with obtaining student commitment to the school's educational goals. This may be made more problematic by assigning to a curriculum a student for whom, despite appropriate ability, there is room for doubt about commitment, motivation, and/or parental support. Erroneous track assignments of this sort may in turn jeopardize the maintenance of the level of order in the school judged necessary to pursue the school's educational goals. Pursuing the instrumental goal of order in this manner may be one of the latent functions of the general track in high schools.

The foregoing may explain in part the differential tracking patterns found in the low- and high-selectivity schools. This issue warrants further exploration and research but is beyond the scope of this paper.

CONCLUSION

The data presented in this paper provide some important information about the distribution of students in the curricular programs of the nation's high schools, and give a baseline for policymakers and researchers. Besides presenting some basic

descriptive information, we were able to test some hypotheses about the relationship of individual- and school-level variables to track placement derived from the literature. Some of the findings reported here confirm those of prior research, other findings suggest a need to revise models of track placement to include school-level variables.

Ability and social class background were the primary student characteristics used to analyze the relationship of individual-level variables to track placement. Ability is by far the most important predictor of track placement. However, it is not a perfect predictor. We did not find any instances where all students of a given ability level were placed in the same track. In fact, the amount of misplacement by ability was substantial and surprising.

Our findings also indicate that social class background is strongly related to track placement. The importance of social class can be seen in the finding that two-thirds or more of the high-ability, high-SES students were frequently found to be in the academic track while about half of the high-ability, low-SES students were enrolled in the academic track. Clearly, both ability and social class are important and neither can be eliminated from the model of track placement. But the most interesting finding is that the two variables are conditionally related such that student-SES specifies the relationship between ability and track placement.

The results of this research also indicate that track

placement is not based solely on characteristics of individual students. School-level variables modify the relationship of ability and student-SES to track placement. We found that students' track placement was affected by the SES of the school they attended. Schools differing on this variable placed students differently by ability and student-SES. Further, we found this interaction effect obscured by regression analysis. The academic inclusiveness of the school was another variable which modified the relationship of ability and track placement. The more academically inclusive the school the less the effect of student-SES on location in the academic track for the two highest ability groups. The lower the academic inclusiveness the smaller the social class differences among low-ability groups in the vocational and general tracks. Thus, this school-level variable affects track placement through its interaction with ability.

The third school-level analyzed was school selectivity. The investigation of this variable was facilitated by the analysis of whether the student chose or was assigned to their curricular track or the degree of electivity. Two-thirds of the sample elected or chose their track and they more often were located in either the academic or vocational tracks while those assigned were more likely to be in the general track. But track placement was found to differ in high- and low-selectivity schools for both those who chose or were assigned. The interaction of ability and electivity in the low-selectivity school yielded a much sharper differentiation of students among tracks than in the high-

selectivity school. The fact that the analyses revealed such systematic differences in placement by ability and SES among types of schools suggests that (1) track placement is more complex than previous research has indicated and (2) that school-level variables should be included in research on track placement, and perhaps studies of tracking systems and processes more generally.

Two other findings would seem to support the necessity of including school level variables in research on tracking and educational outcomes. A review of the cross-classification tables reveals that tracks in different types of schools are composed of very different kinds and combinations of students. Second, an absolute level of ability is not required for entry into the various tracks across types of schools; types of schools are differentially responsive to ability. If we assume that track placement bears some relationship to subsequent learning and achievement, the responsiveness of a tracking system to ability could account in part for variations in educational outcomes.

Students appear to be differently assigned to curricular tracks depending on some selected characteristics of the schools they attend. This indicates that schools do not track students in the same way and that a variety of tracking arrangements may exist among our nation's schools. This would seem to support Rosenbaum's (1984) contention that different configurations of tracking are institutionalized in our schools and that a uniform system throughout the nation does not exist. The inclusion of school-level variables in future research on tracking and its consequences

may lead to less contradictory results than has been the case in the past.

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